

FIG. 1

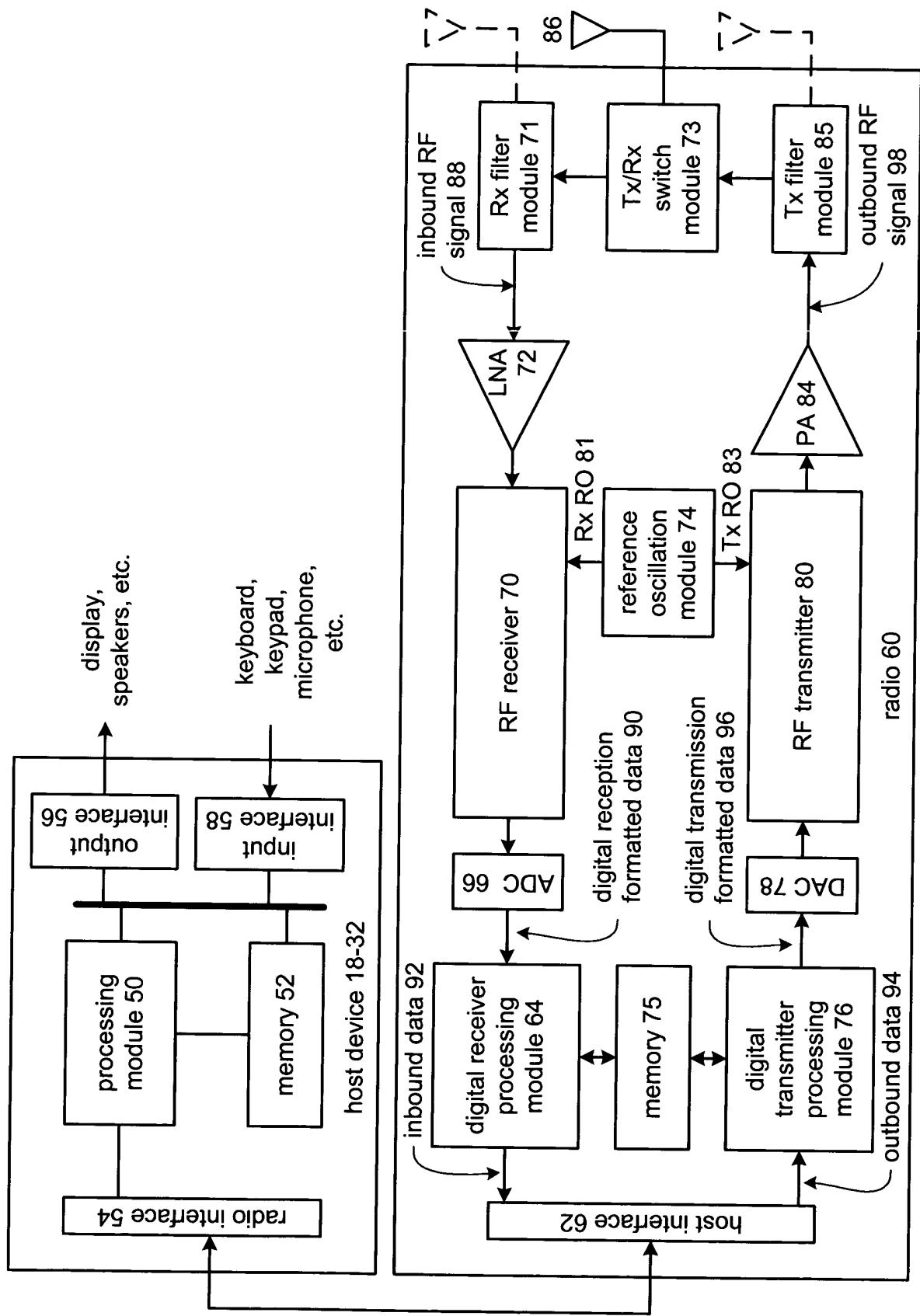


FIG. 2

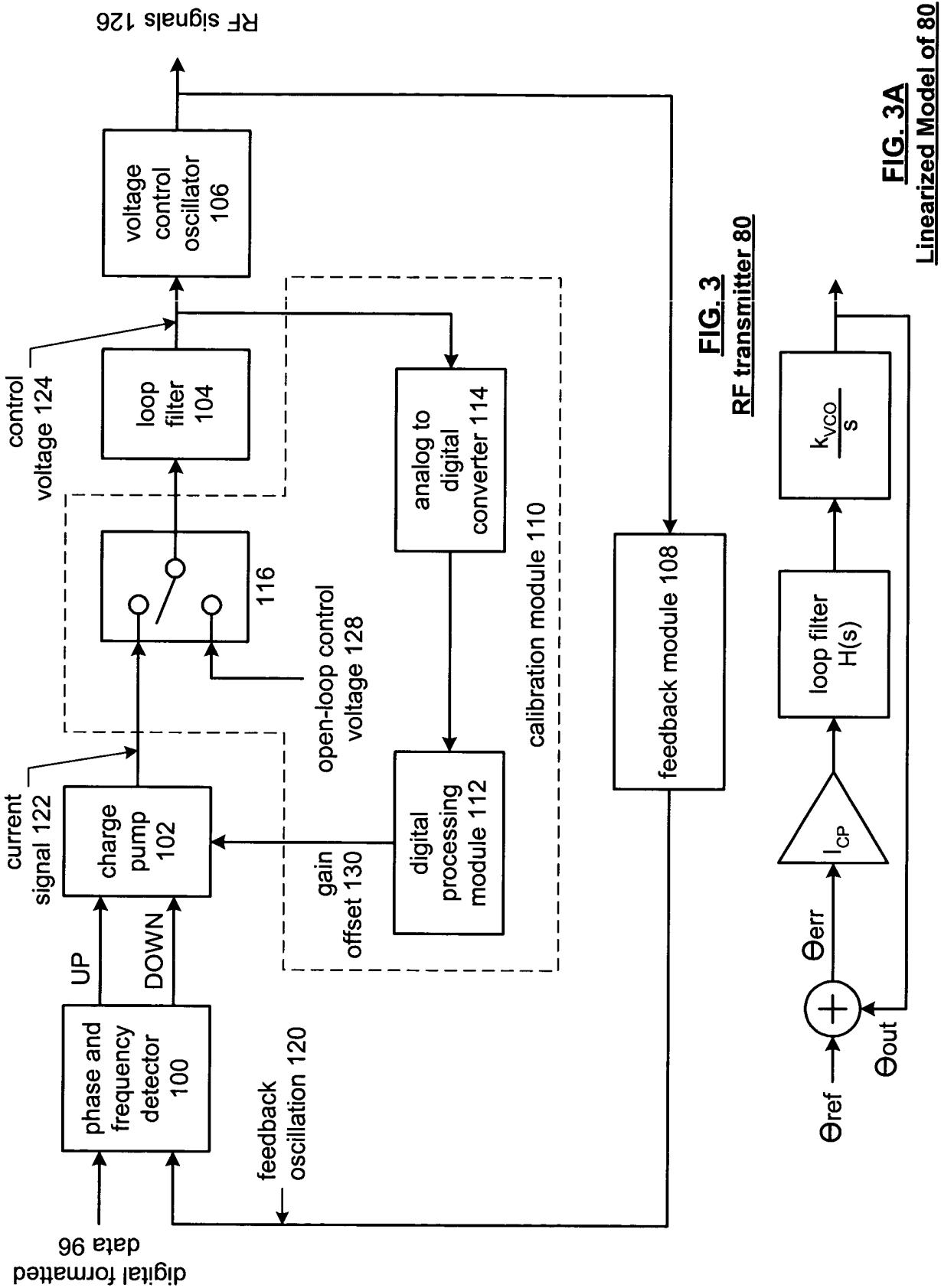


FIG. 4
VCO operating curve

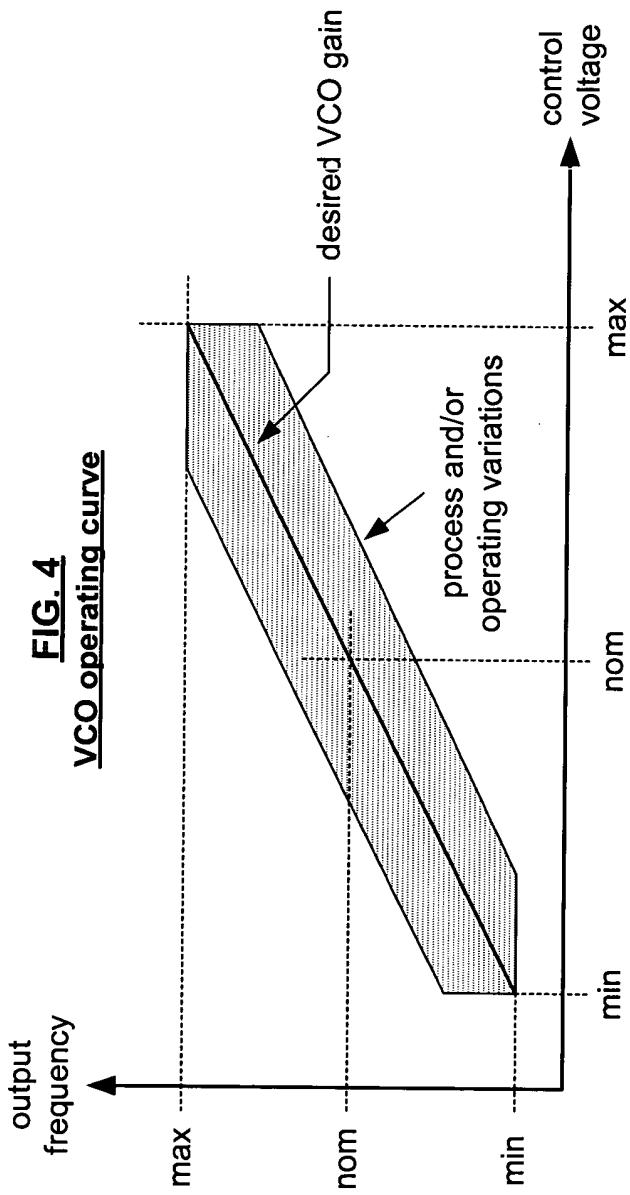
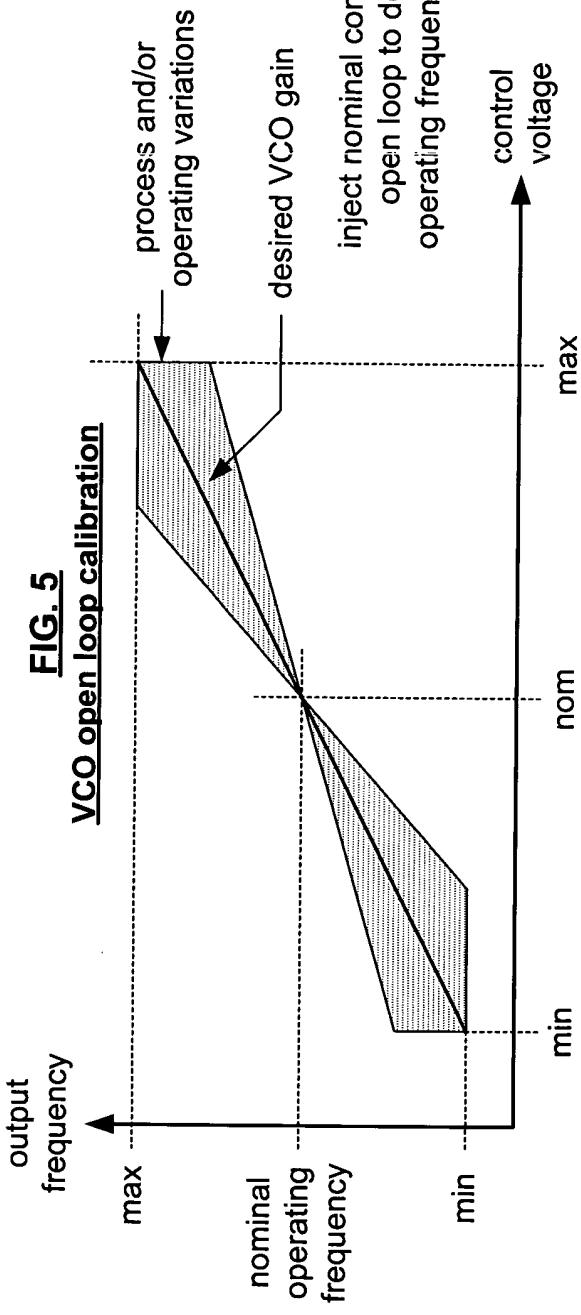


FIG. 5
VCO open loop calibration



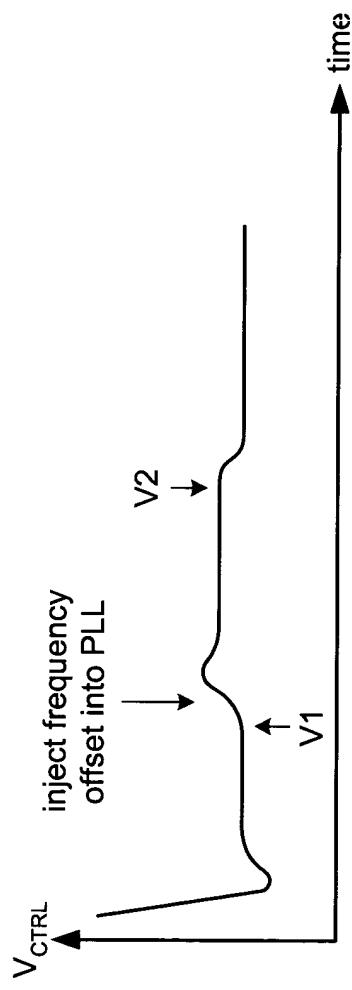


FIG. 6

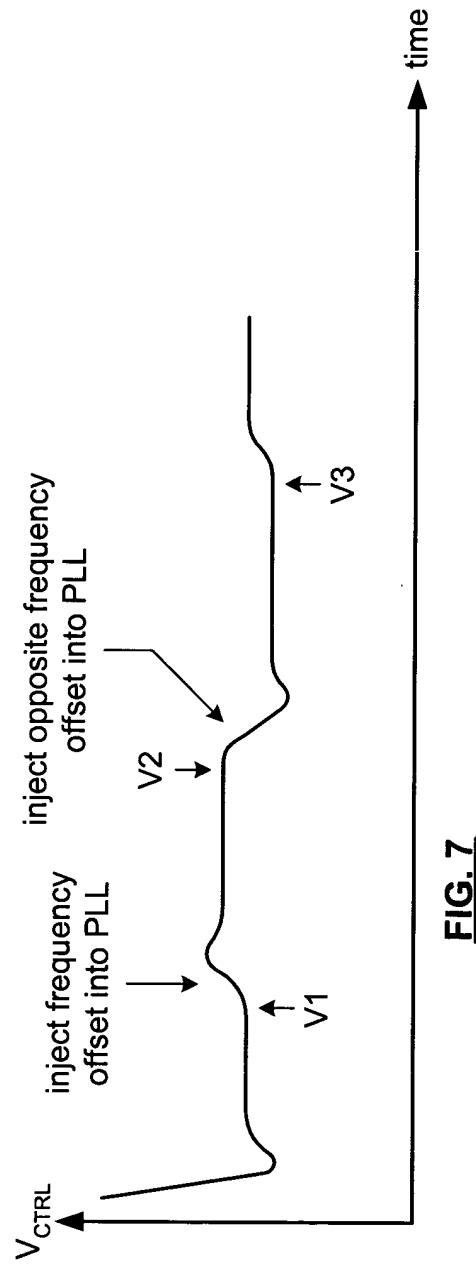


FIG. 7

FIG. 8
charge pump 102 and loop filter 104

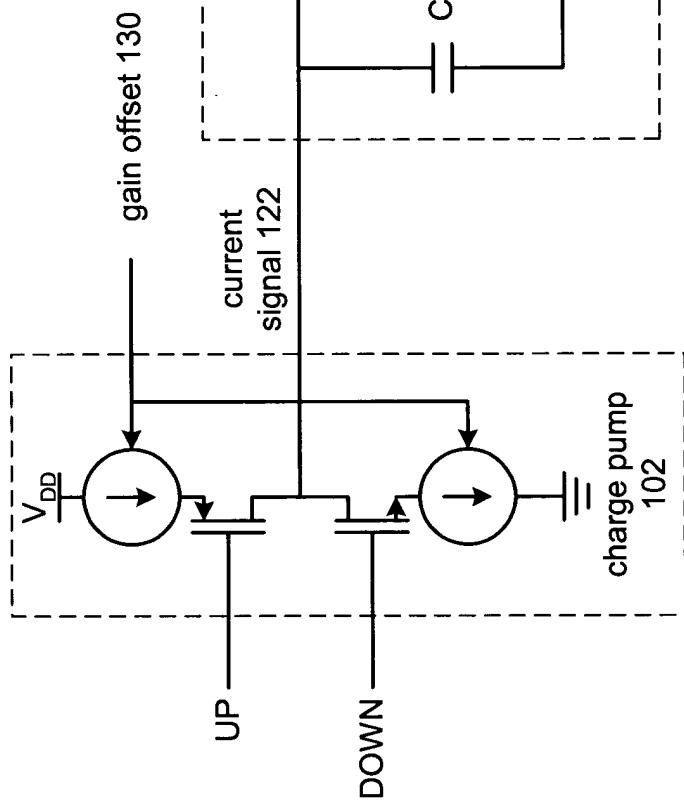
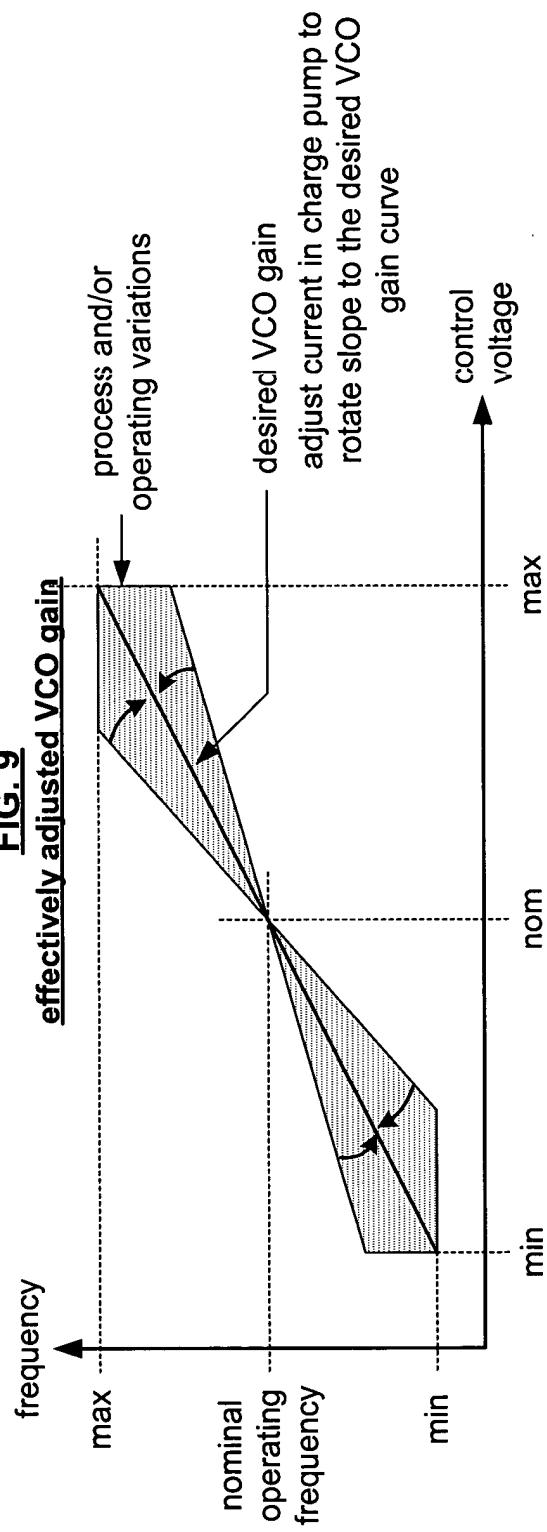


FIG. 9
effectively adjusted VCO gain



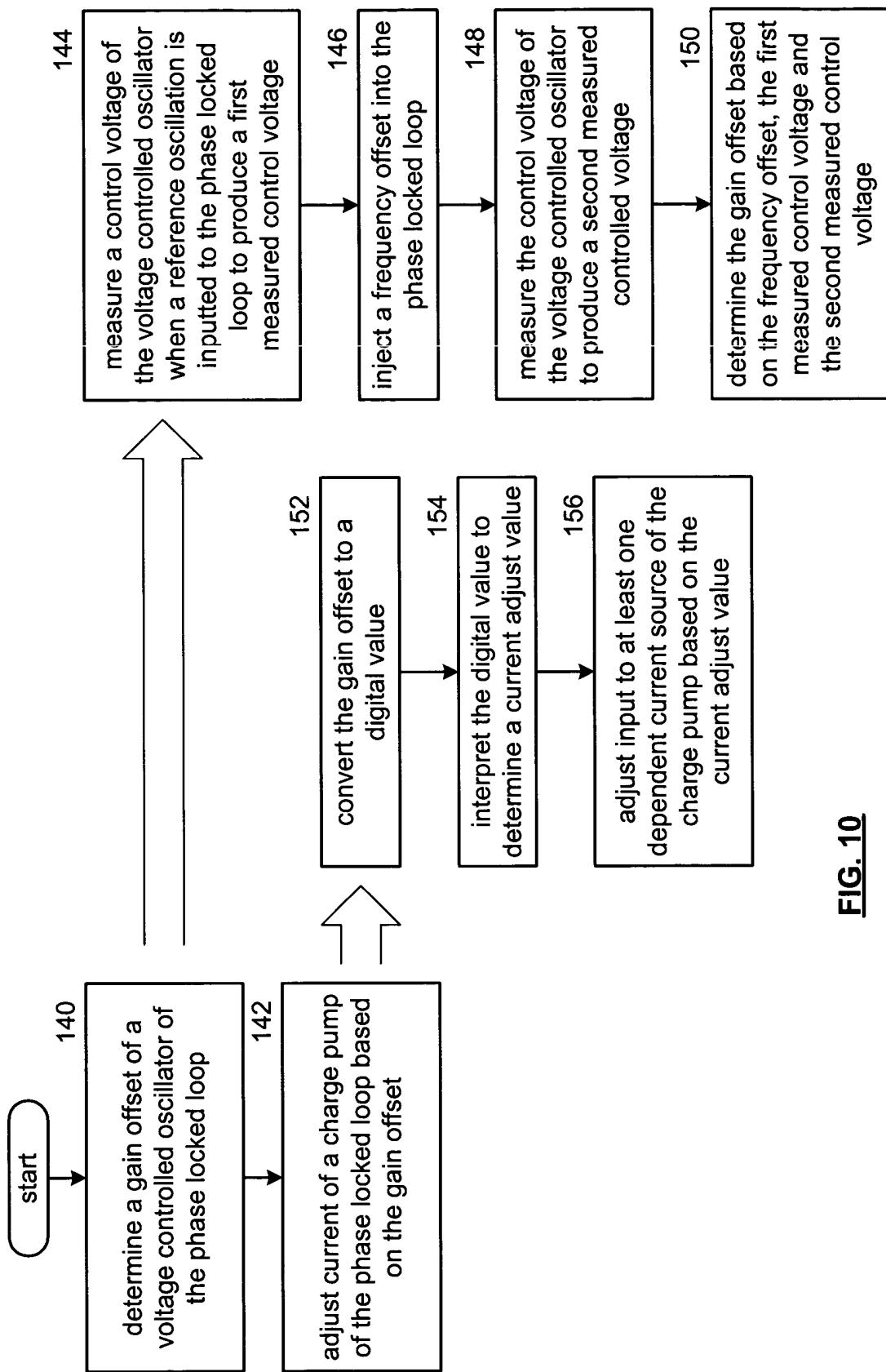


FIG. 10

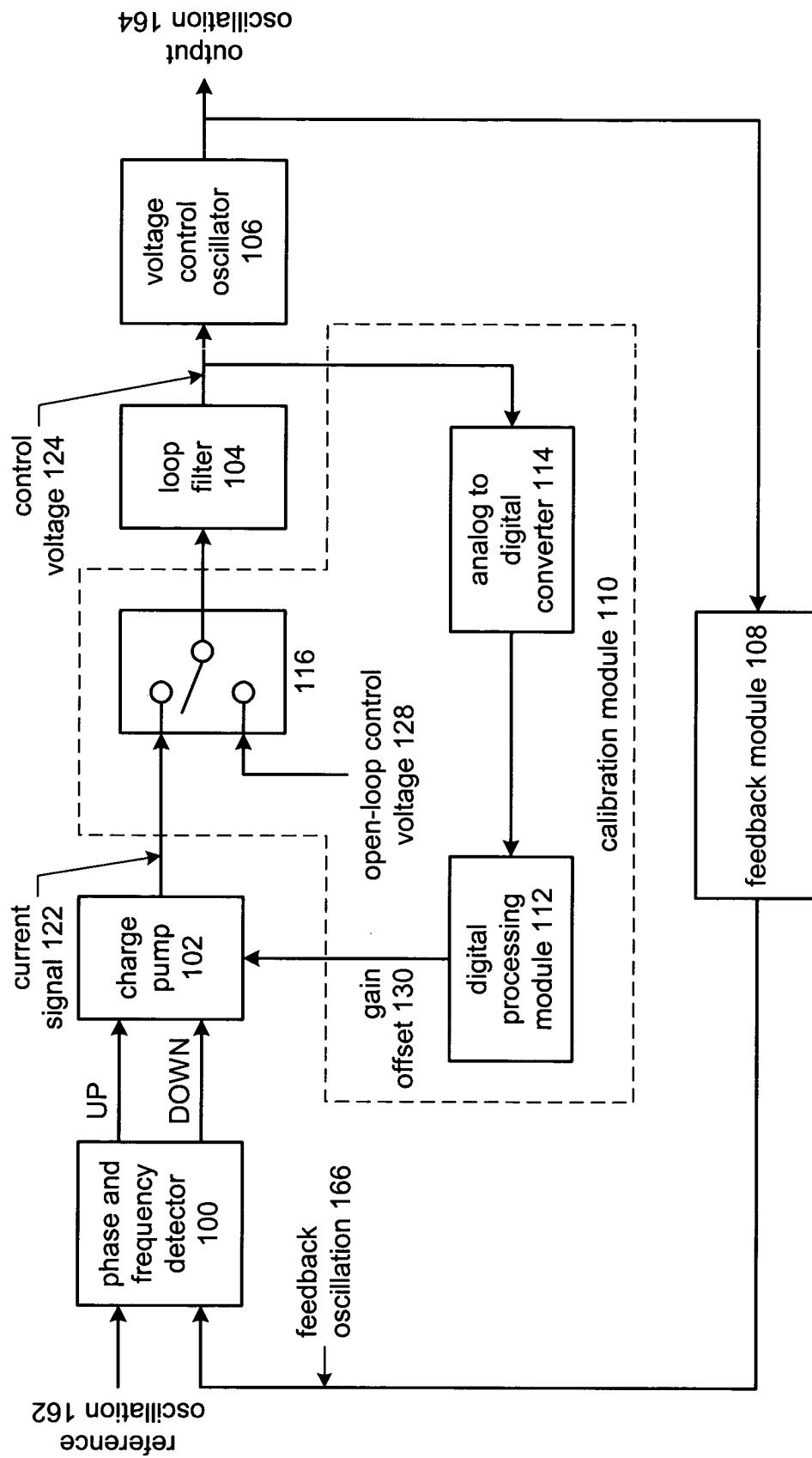


FIG. 11
PLL 160